

THE United States Miller

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TERMS: \$1.00 a Year in Advance.
Single Copies, 10 Cents.

BEFORE TRIAL!

Lamar, Mo., July 7, 1886.

SPERRY FEEDER CO.

Gentlemen:—Please send us one Feeder 9 x 18 Allis Roll (double). If satisfactory we will want two more of the same kind and one for 9 x 14 style B.

Respectfully,

Brand, Dunwoody & Co.

SPERRY FEEDER CO.

MINNEAPOLIS, MINN.

Increase Capacity, Increase Yields, Better Grades, Reduce Running Expenses, by using our Feeders.

Refer to the following mills in which our Feeders have been adopted:

Pillsbury A,
Pillsbury B,
Anchor,
Washburn A,
Washburn C,
Northwestern,
Pettit,
Columbia,
Crown Roller,
Dakota,
Galaxy,
R. D. Hubbard & Co., Minneapolis, Minn.

PENNSYLVANIA.
H. B. Klinger & Co., Butler.
D. & A. Lukens, Bethlehem.
Melbourne Mills, Philadelphia.

NEW YORK.
Jewell Milling Co., Brooklyn.
Jones & Co., New York City.
Kings Co. Mill Co., Brooklyn.

OHIO.

Bohunmacher Milling Co., Akron
R. D. Hubbard & Co., Mankato, Minn.; Austin Herr, Washington, D. C., and others.

CALIFORNIA.
Sperry & Co., Stockton.
Pioneer, Sacramento.
McGrary & Bro., Sacramento.
Horace Davis, San Francisco
Golden Age, " "
Del Monte, " "
General Bidwell, Chico.
Griley Mills, Gridley.
Victor Mills, Hollister.

AFTER TRIAL!

Lamar, Mo., Jul 29, 1886.
J. A. MCANULTY.

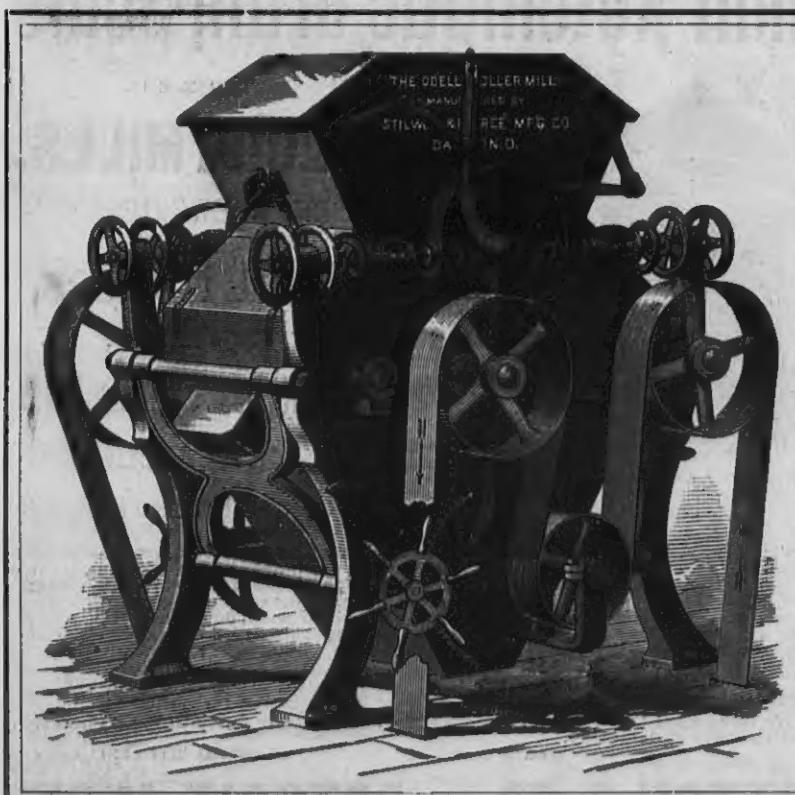
Dear Sir:—Please send us two more Feeders for 9 x 18 Allis double rolls, and one for 9 x 14 style B. We are convinced from our experience with the one sent us that they will increase our capacity and yield materially. Ship as soon as possible and send bill.

Yours Respectfully,

Brand, Dunwoody & Co.

The only Force Feed Made for Feeding Mill Stock

ODELL'S ROLLER MILL SYSTEM



is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with unparalleled success. All the mills now running on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction to parties using the Odell Rolls and System, will be furnished on application to all who desire to investigate.

••• Odell's Roller Mill •••

Invented and Patented by U. H. ODELL, the builder of several of the largest and best Gradual Reduction Flour Mills in the country.

AN ESTABLISHED SUCCESS!

We invite particular attention to the following

POINTS OF SUPERIORITY

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each of the four rolls a separate driving-belt from the power shaft, thus obtaining a positive differential motion which cannot be had with short belts.

2. It is the only Roller Mill in market which can instantly be stopped without throwing off the driving-belt, or that has adequate tightener devices for taking up the stretch of the driving-belts.

3. It is the only Roller Mill in which one movement of a hand lever spreads the rolls apart and shuts off the feed at the same time. The reverse movement of this lever brings the rolls back again exactly into working position and at the same time turns on the feed.

4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and from the stationary roll-bearings without disturbing the tension-spring.

5. Our Corrugation is a decided advance over all others. It produces a more even granulation, more middlings of uniform shape and size, and cleans the bran better.

WE USE NONE BUT THE BEST ANSONIA ROLLS.

Our Corrugation differs from all others, and produces less Break Flour and Middlings of Better Quality. Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on short notice. For further information, apply in person or by letter to the sole manufacturers,

STILWELL & BIERCE MANUFACTURING COMPANY, DAYTON, OHIO, U. S. A.

Agents for Du Four's Bolting Cloth.



**The "HOPEWELL"
TURBINE
Water Wheel**

IS THE BEST.

For full particulars address
A. J. HOPEWELL,
EDINBURG, VA.

Improved + Walsh + Double + Turbine

This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

B. H. & J. SANFORD,

Franklin Works,
Sheboygan Falls, Wis.

**STEEL
CAR
PUSHER**

Made entirely of STEEL. ONE MAN with it can easily move a loaded car. Will not slip on ice or snow.

Manufactured by

E. P. DWIGHT,
Dealer in Railroad Supplies, 407
Library St., Philadelphia, Pa.

[Please mention this paper when you write to us.]

Preserve your Copies of the
UNITED STATES MILLER

—IN AN—

ULLRICH BINDER

This binder is suitable for binding your copies of the **UNITED STATES MILLER** for two or more years, any required number can be taken out without disturbing its contents. Binders made for all Publications, for binding Music, etc.

ITS EQUAL ANNOT BE FOUND.

Send post paid for \$1.10. Address

UNITED * STATES * MILLER,
MILWAUKEE, WIS.

LORD & THOMAS, NEWSPAPER
49 Randolph St., Chicago, keep this paper on file
and are authorized to make contracts with **ADVERTISERS.**

Flint & Pere Marquette R. R.

LUDINGTON ROUTE.

Fast Freight & Passenger Line.

Freight Contracted on through Bills Lading to all points in

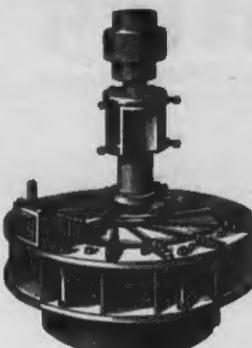
**Michigan, Indiana, Ohio,
New York, Pennsylvania,
New England & Canada.**

AT LOWEST RATES.

All freight insured across Lake Michigan. Passengers save \$2.75 to all points East.

Dock and Offices, No. 80 West Water St., one block from Union Depot.

L. C. WHITNEY,
Gen'l Western Agent.



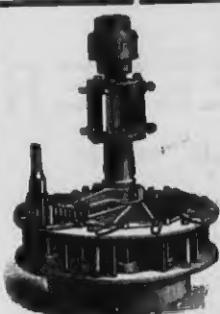
**JAMES LEFFEL'S IMPROVED
WATER WHEEL,**

Fine New Pamphlet for 1885.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

**JAMES LEFFEL & CO., Springfield, Ohio,
and 110 Liberty St., New York City.**

[Please mention this paper when you write to us.]



**POOLE & HUNT'S
Leffel Turbine Water Wheel**

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.
45th Shipping Facilities the Best in all Directions.

POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

[Mention this paper when you write to us.]

FROM 1-4 to 15,000 LBS. WEIGHT.

True to Pattern, sound, solid, free from blow-holes, and of unequalled strength. Stronger, and more durable than Iron forgings in any position or for any service whatever. 40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of this steel now running prove this.

CRANK SHAFTS and GEARING specialties.

STEEL CASTINGS of every description

Send for Circulars and Prices to

CHESTER STEEL CASTINGS CO.

Office, 407 LIBRARY ST., PHILADELPHIA, PA.

**STEEL
CASTINGS**

Works, CHESTER, PA.

[Mention this paper when you write to us.]

Marshall Automatic Grain Scale

FOR USE IN

FLOUR MILLS,

BREWERIES,

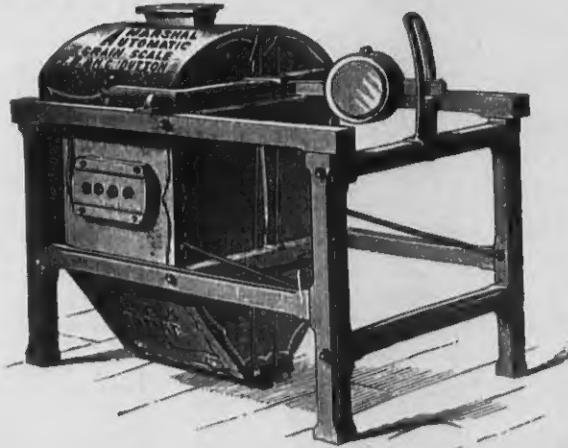
Malt Houses,

ELEVATORS,

Distilleries, & Rice & Mills,

OIL MILLS,

Starch Factories, &c.



This Scale is designed for weighing and registering the amount of grain transferred from one point to another. The weighing and recording is absolutely correct, and the machines are sold with a guarantee to that effect. By their use the miller can tell at any time how much wheat he is using to make a barrel of flour and know at once whether he is milling at a profit or loss. This scale can be used with equal advantage by shippers of grain or others who desire to know how much grain, flour feed, bran, shorts, screenings, coal (or any other thing that can be spouted), is being transferred, with a perfect record made of same.

J. B. & H. C. DUTTON, Detroit, Mich.

Gentlemen: We have used the Marshall Automatic Grain Scale in our mill for six months, and it has proved entirely satisfactory.

Yours truly,

ELDRED MILLING CO.

J. B. DUTTON & CO., DETROIT, MICH.

No. 52 WOODWARD AVE.

SOLE OWNERS OF THE PATENT.

Also handle a full line of Flouring Mill Machinery.

JACKSON, MICH., Nov. 18, 1885.

BELLAS, PATTON & CO.
Commission Merchants
 3 INSURANCE EXCHANGE BLDG.,
 218 La Salle St., CHICAGO.
GRAIN AND PROVISIONS.

Bought or sold for shipment, or carried on margins.
 Market Reports furnished to correspondents.

(ESTABLISHED 1856.)

J. O. MATHEWSON & CO.
 GENERAL
COMMISSION
MERCHANTS,
 AUGUSTA, - GEORGIA.

E. B. OWENS & CO.,
Provisions and Grain
 BALTIMORE, MD.

Sell on Track West and to Arrive.
 Fine Storage Cellars for Meat and Lard.
 Handle all kinds of Grain.
 Liberal Advances on Consignments.

REFER TO Western National Bank, Baltimore; Citizens' National Bank, Baltimore; Wm. Ryan & Sons, Dubuque, Iowa; Whitmore Bros., Quincy, Ill.; Bloomington Pork Packing Co., Bloomington, Ill.

L. EVERINGHAM & CO.,
 (ESTABLISHED 1865.)
Commission Merchants

300-301 Royal Insurance Building,
 Opposite New Board of Trade, CHICAGO

THE PURCHASE AND SALE OF
GRAIN AND PROVISIONS
 On the Chicago Board of Trade.
 For cash or future delivery, a specialty.

Special information, indicating course of markets,
 freely furnished upon request.

W. M. GRIFFITHS, JAMES MARSHALL, GEO. E. DODGE.

GRAIN & COMMISSION
 MINNEAPOLIS AND DULUTH, MINN.

Orders for Choice Milling Wheat Given Special
 Attention.

FLOUR & BROKERS
 MILLERS DESIRING TO SELL FLOURS BY SAMPLE in car lots in the cities of Baltimore, Md., or Washington, D. C., should communicate with P. H. HILL, Millers' Agent, WASHINGTON, D. C., and for Philadelphia, Pa., communicate with HILL & SCHAAF, Millers' Agents and Grain Brokers, 219 North Broad St., PHILADELPHIA, PA. Highest
 references.

SAM'L E. DUNHAM & CO.,
 COMMISSION
Provisions and Grain
 ROOM 83,

Board of Trade, CHICAGO.

The purchase of grain for shipment to home markets
 a specialty.

N. S. CLARK.

A. C. MARTIN.

CLARK & MARTIN,
Commission Merchants
 FLOUR, GRAIN,
 FEED AND HAY,

No. 81 West Second St., Cincinnati, O.

PATTERSON BROS. & CO.,
Commission Merchants

FOR SALE OF
 WHEAT, CORN, OATS, RYE.
 DEALERS IN

Seeds, Hominy, Grits, Steam Dried Corn Meal.
 44 VINE ST., CINCINNATI.
 ORDERS AND CONSIGNMENTS SOLICITED.

ESTABLISHED

1870.

JNO. R. TURRENTINE,

—GENERAL—

Merchandise and Produce Broker,
 FLOUR, GRAIN, HAY AND RICE.
 Dock Street, WILMINGTON, N. C.
 MEMBER OF CHICAGO BOARD OF TRADE.

Refers by permission to A. K. Walker, Esq., cashier First Nat'l Bank, Hall & Pearson, Adrian & Voller, Merchants, Wilmington; Robt. Carey & Co., New Orleans, La.; Geo. P. Plant & Co., St. Louis, Mo.; Martin & Bennett, Chicago, Ill.

Solicits Orders for Carolina Rice and Peanuts.

OWEN & BRO.,
 Commission • Merchants,

36 Chamber of Commerce, MILWAUKEE,

We give special attention to the purchase and sale of grain or provisions, for future delivery, here or in other markets.

Information regarding the present condition and future outlook for prices furnished on request.

OWEN & BRO.

S. S. STOUT.

H. G. UNDERWOOD.

STOUT & UNDERWOOD,

(Formerly Examiners U. S. Patent Office.)

SOLICITORS OF

PATENTS

66 Wisconsin Street,
 MILWAUKEE, WIS.
 TELEPHONE NO. 502.

Life Insurance.

NEW ENGLAND MUTUAL

LIFE INSURANCE CO.
 OF BOSTON.

Assets, - - - - -	\$17,846,546.65
Liabilities, - - - - -	\$15,288,761.16

Total Surplus, - - - - - \$ 2,607,785.49

BENJ. F. STEVENS, Pres't.
 JOSEPH M. GIBBENS, Sec'y.

Boiler Insurance.

AMERICAN

Steam Boiler Insurance Company

OFFICE, 45 WILLIAM ST., NEW YORK.

Cash Capital, \$200,000

ASSETS JANUARY 1st, 1885.	
U. S. Gov. Registered Bonds, of which \$100,000 is lodged with the Insurance Department at Albany, N. Y.	\$216,188.00
Cash in bank and in office 10,888.72	10,888.72
Premiums in course of collection 16,899.35	16,899.35

LIABILITIES.	
Reinsurance reserve 40,226.00	40,226.00
All other demands 2,013.27	2,013.27

WILLIAM K. LOTHROP, President.
 WILLIAM E. MIDGLEY, Vice-Pres.
 VINCENT R. SCHENCK, Secretary.

Fire Insurance.

Every miller and manufacturer having an A 1 risk, should apply for insurance in the Allied Mutual Fire Insurance Companies, of which S. H. Seamans, Milwaukee, Wis., is secretary.

CONNECTICUT

FIRE INSURANCE CO.,

HARTFORD, - CONNECTICUT.

Cash Capital, - - - - - \$1,000,000 00

Reserve for Reinsurance, - - - - 580,869 40

Outstanding Claims, - - - - 90,896 57

Net Surplus, - - - - - 808,688 78

Total Assets, Jan. 1, 1886, -	\$1,974,749 75
Surplus to Policy-holders, -	\$1,308,688 78

J. D. BROWNE, President,
 CHARLES R. BURT, Secretary.
 L. W. CLARKE, Ass't Secretary.

Attention!
 CUSTOM and EXCHANGE MILLERS.

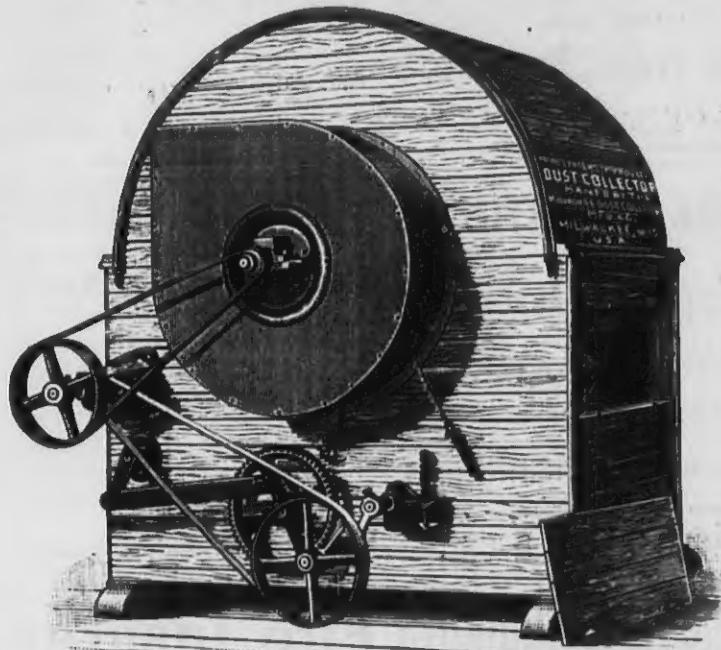
We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any No. of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada.

Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.

IMPROVED
PRINZ PATENT DUST COLLECTOR.

6000 IN SUCCESSFUL OPERATION.

FIVE SIZES MANUFACTURED.



FIVE SIZES MANUFACTURED.

ADDRESS FOR
 "Treatise on Dust Collection," containing 50 pages of testimonials,

Milwaukee Dust Collector Mfg. Co.,
 MILWAUKEE, WIS.



Howe Scales

AND

HARRISON CONVEYOR

Borden, Selleck & Co.,

GENERAL AGENTS.

CHICAGO, ST. LOUIS, CLEVELAND, CINCINNATI,
 48-50 LAKE ST. 812 N. 36 STREET. 114 WATER ST. 106 MAIN STREET.

Howe Scales—Over 300 Modifications.

GRAIN TESTERS, FLAX TESTERS,
 CAR MOVERS,
 BARBED WIRE STRETCHERS,
 TRUCKS, BAGGAGE BARROWS,
 COFFEE AND DRUG MILLS,
 STEEL GRAIN SCOOPS,
 OIL TANKS, LETTER PRESSES,
 STANDARD, LIQUID AND DRY MEASURES.

Do Your Own PRINTING.
 Card Press, \$8.00
 Circular Size, 8.00
 Newspaper " 44.00
 TYPE SETTING
 etc. is Easy
 by our printed
 instructions.
 For home or
 business use
 old or young
 Send 2 stamps
 for Catalogue of Presses,
 Type, Cards, etc., to factory.
KELSEY PRESS CO.
 Meriden, Conn.

AGENTS WANTED. SAMPLES
 Goods SELL everywhere, to Everybody.
 BIG PAY! A pocket case of EIGHT Lovely
 SAMPLES, with our terms, FREE TO ALL.
 Send your address, and 2 stamps for mailing. Address
 THE HOLLEY WORKS, Meriden, Conn.

FOR SALE

10,000 acres of Hardwood and Agricultural
 Lands near Lake Superior, AT \$3.00 TO
\$5.00 PER ACRE. 4,000 acres in the
 Iron River Country, at low rates.

A RARE OPPORTUNITY FOR A GOOD FIND.

IF YOU WISH TO BUY

**CITY PROPERTY IN DULUTH,
 OR PINE, IRON OR FARM-
 INC LANDS,**
 (ADDRESS)

LUCIEN * J. * BARNES,

Room No. 2, Exchange Building.

DULUTH, MINN.

Mills • For • Sale.

Short advertisements will be inserted under this head
 for One Dollar each insertion.

FOR SALE

A first-class 40-barrel water power stone
 and roller flour mill, situated within forty
 rods of side track of the C. M. & St. P. R. R.
 Country all settled up. Last year's grinding
 20,000 bushels on custom work. Address
 H. F. FISHER, Camp Douglas, Wis.

FOR SALE

A Flour Mill in a good wheat section on
 D. R. G. R. R., Colorado. Fine of Water
 Power. Three runs of Burrs, Centrifugals
 and Cleaning Machine, all in best conditions.
 Good reasons for selling, and special induc-
 ments given to purchasers. For terms, etc.,
 address FRED. PISCHEL, La Veta, Col.

MILL FOR SALE.

The whole or half interest in a 50-barrel
 full roller mill, on account of death of part-
 ner. Good winter wheat section, climate
 and location. Will take one-third on the
 whole value in Western land. Address
 "EAGLE ROLLER MILLS," Plymouth, Ill.
 or U. S. MILLER, Milwaukee, Wis.

**FLOURING MILL AND ELEVATOR
 FOR SALE.**

All or one-half interest in a first-class 75-barrel
 steam flouring mill and elevator. All new and in
 good order. Located at Meriden, Jefferson Co., Kan.,
 on the Atchison, Topeka & St. F. and the L. T. & S. W.
 Railroads; in the best wheat and corn growing
 county of the state. Building, heavy frame, 36x46,
 three stories, attic and basement, with stone engine
 room 22x34; all under iron roof. Capacity of
 elevator, 15,000 bushels; corn crib, dump and sheller.
 Side track to mill. Two sets 9x18 Allis Rolls; three
 burrs on wheat, one on corn; flour packer, scales,
 etc.; two Smith Purifiers; Barnard & Leas Separator;
 one 12-foot two-reel chest; one 16-foot four-reel chest;
 corn meal bolt; California Brush Finisher; one
 Western Corn Cleaner. Grain trade more than pays
 all running expenses. A splendid chance for a good
 miller. Exchange trade good. Mill cost over \$16,000.
 Will sell all for \$12,000, half cash, or half interest for
 \$6,000, half cash, or, if not sold by July 1st, will be
 leased for a term of years to responsible parties.

J. O. PEERLESS, Sec'y,
 MERIDEN MILL CO., Meriden, Kan.

FOR SALE CHEAP.

New all roller mill containing 11 pairs of
 rolls 9x12, 9x18 and 9x24, 6 reels, 3 purifiers,
 1 centrifugal reel, 5 scalping reels, separator,
 smutter, corn sheller and 44-foot feed stone.
 Water power mill driven by a 50-inch special
 Leffel wheel, 8-foot head and plenty of water
 the year around. Millhouse 38x50, 2½ stories;
 11 feet high stone basement. The mill was
 built and started up new two years ago last
 June. It is situated in the best milling town
 and best wheat county in the State of Wis-
 consin. Only one mill to compete with in a
 radius of 10 to 25 miles; all a thick settled
 country around. The best of reasons for sell-
 ing. For particulars call on or address

A. F. ORDWAY & SON, mill builders
 and furnishers, Beaver Dam, Wis.

SITUATION WANTED.

Short advertisements will be inserted under this head for
 One Dollar each insertion.

WANTED—A practical Oatmeal Miller, one
 who understands his business and is willing
 to attend to it. Can receive additional
 information by calling on, or addressing
 CHARLES D. DANA, 10 State St., Chi-
 cago, Ills.

WANTED.

*A situation by a good practical Roller
 Miller. Have worked in a Mill of 66
 Rolls. References can be given.*

P. BERGER,
 184 Reed St., Milwaukee, Wis.

PATENTS THOS. P. SIMPSON, Washington, D. C. No Pay asked for patents until obtained. Write for Inventor's Guide.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.10

To Canadian subscribers, postage prepaid..... 1.00

Foreign subscriptions..... 1.25

All Drafts and Post-Office Money Orders must be

made payable to E. Harrison Cawker.

Bills for advertising will be sent monthly, unless

otherwise agreed upon.

For estimates for advertising, address the UNITED

STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as
second-class matter.]

MILWAUKEE, SEPTEMBER, 1886.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC—Performances every evening, Wednesday, Saturday and Sunday matinees.

GRAND OPERA HOUSE—Performances every evening, and Wednesday, Saturday and Sunday matinees.

DIME MUSEUM—Performances every hour from 1 P. M. to 10 P. M. every day.

NEW PEOPLE'S THEATRE—Performances every evening, and Wednesday, Saturday and Sunday matinees.

SHOULD any of our readers want a good and cheap purifier, they will do well to correspond with C. N. Smith, of Dayton, O.

WE are gratified to note that our new brother, *The American Millwright*, of West Middlesex, Pa., is increasing in size and value with each number. It is well worth the patronage of millers, millwrights and mill-furnishers. The subscription price is \$1.00 per year. Send for it.

THE Boston Herald claims that since the extensive introduction of kerosene oil stoves, grocers have been in the habit of keeping in stock dangerous qualities of oil. It suggests that all oils sold by grocers should first be subjected to a rigid test by an inspector.

NOW is the time for Expositions. They are in full blast in Chicago, Minneapolis, Cincinnati, Milwaukee and in many other places. They are useful to the public, if not as a rule financially successful. Our Milwaukee Exposition is probably as good as any of the others and we trust the citizens of this state especially will all visit it. It is worth the trouble and expense.

THE Postoffice Department has put on sale at the principal post offices, the United States letter sheet envelope—a combination in one of a letter sheet, envelope and the new postage stamp of the denomination of two cents, bearing the military portrait of General Grant. They will be sold at the rate of \$28 per thousand in any desired quantities.

THE Consolidated Roller Mill Company of Chicago, Ill., still causes considerable talk among the milling fraternity. Consolidated

companies are not at all popular and it is a question whether they are generally profitable to the promoters. As the Consolidated Co. has so far neglected to furnish the press with any particulars, we must leave our readers in Egyptian darkness on the subject for the present.

THE N. Y. Commercial Bulletin says: Another of the multiplying signs of business prosperity at the Southwest is the fact, that "this is the biggest railroad year Kansas has ever witnessed,"—the total construction being estimated at 1,500 miles. As one writer puts it, "the Titans have invaded the State and are struggling for the mastery." There is a great deal of Eastern and European capital in these enterprises, but the West itself now is financially strong enough to identify itself with them.

SAN FRANCISCO PRODUCE EXCHANGE.—The annual report of the San Francisco Produce Exchange, under date of July 21, brings out the fact that the exchange has this year, for the first time, begun the work of gathering grain crop reports. The hope is expressed that at no distant day this work will prove of some value to the members and to the public. The fact is noted that the grain shipments from San Francisco to China and Japan and Central America are constantly increasing. By adding the Oregon movement it is found that the exports of grain from the Pacific coast lead those of India.

THE Postmaster-General has taken an important step in his late order designating all the post-offices in the United States and territories as special delivery offices, beginning with October 1. On and after that date every postmaster will be held responsible for the immediate delivery of every article of mailable matter properly stamped with a special delivery stamp directed to a place within a mile of the post-office. The issuance of this order, and the tenor of the instructions accompanying it, go to show that the government intends to make every effort to make the special delivery system a success. It will be interesting to notice what effect, if any, the new move will have on the local messenger and telegraph services.

A DULUTH exchange of Sept. 1, says: The millers' union will begin active operations tomorrow by withdrawing individual buyers from the sample wheat market and purchase through the union buyers exclusively. Cash wheat in large lots will also be bought through the union agents. Purchases for future delivery will be made, if at all, by individual millers without being in any way accountable to the union. Under the old millers' association rules that could not be done. The union purposes buying mainly in the chamber, from any party having wheat for sale and without any favors to any special class of sellers, whether they be elevator companies, commission men, farmers or wheat dealers. The plan, if carried out in that spirit, seems to be broad enough to satisfy everybody.

MR. J. M. CASE, of the Case Mfg. Co., Columbus, O., has just perfected a new bolting machine which he will soon place on the

market, that for simplicitas of construction and capacity is, to say the least, wonderful. We hope to be able to give our readers a description of this machine in our October number. We may also mention that Mr. Case is now developing a small concentrated roller mill for mills of from 20 to 30 bbls. capacity, which will occupy a space of 2 ft. sq. on the floor and 4 ft. in height, and in this machine he uses his peculiar bolting device in combination with the rolls for making several separations on the breaks. He is now building a small experimental mill in which these new machines will be employed.

IT MAY not be known generally to millers that pearl cornmeal is being used very extensively by brewers instead of rice which was formerly used, consequently millers who have adopted the latest improved cornmeal systems are running their mills to their full capacity and are coining money thereby. This may be an important suggestion to small millers who have not the money to put in a roller plant for wheat, as by adopting the short roller system for manufacturing cornmeal they will be able to utilize their power and plant to profitable advantage. The cost of a complete system for cornmeal milling does not exceed \$800 for a capacity of 50 bbls. in 24 hours.

FLOUR MILL DIRECTORY FOR 1886.

All persons desiring to reach the milling trade should invest at once in a copy of Cawker's American Flour Mill Directory for 1886. It is carefully compiled; contains 18,289 addresses in the United States and Canada; shows in thousands of instances the capacity, power and system of milling (i. e. whether the stone or roller or combined system is used). It also contains a list of millwrights and American and European flour brokers. The book is sold at \$10 per copy and can be obtained by addressing the United States Miller, Milwaukee, Wis., or any of the principal milling papers.

A PICNIC FOR MILLERS' SURE.

To the Members of the Millers' National Association:

At the annual convention, held in Chicago, it was arranged to call a meeting of the Executive Committee to convene at Minneapolis some time in September, to take cognizance of any business that might require attention.

Since that time the Committee have been importuned to issue a call for a general reunion of millers at Minneapolis, during the holding of their exposition. The President and Chairman of the Executive Committee, having duly considered the matter, direct a call to be issued for a general gathering of millers, members of the association and others, to meet at Minneapolis Monday and Tuesday, September 18th and 14th. We have arranged with the Chicago, Milwaukee & St. Paul and Chicago & Northwestern Railroads for transportation from Chicago and intermediate points, to and return, at full fare going and one-fifth returning, and presume other roads will give the same communication.

A large gathering and a good time may be expected. S. H. SEAMANS, Sec'y.

WISCONSIN PRESS ASSOCIATION.

This Association met at Marinette, Aug. 18th. As previously arranged, a good representation of the press assembled at Milwaukee on Monday at 2:30 P. M. and boarded a special train over the Milwaukee & Northern R. and made the run to Marinette in about five hours. On their arrival the citizens by a committee took them under their wings and tendered them the hospitalities of their beautiful homes and hotels free of charge.

Tuesday morning the business meeting was called to order by President Hoard and the retiring officers re-elected for the ensuing year. It was shown in the Secretary's report that the membership was 165, which is the largest press association in the United States.

After dinner carriages were provided and the editors and their wives were driven around the beautiful cities of Marinette and Menominee, viewing the huge saw mills and various manufacturing interests. The business outlook for Marinette is hopeful.

The literary exercises held at the Opera House in the evening was largely attended by the citizens, and were opened by the Ladies Quartette of Sparta (who accompanied the party), by singing the "Harvest Moon" charmingly; after which an address of welcome was delivered by Hon. H. O. Fairchild, followed by Mr. Noyes, which were very cordial and eloquent. They were responded to in a pleasing manner by Judge Ryan of Appleton. The quartette then sang, "What dost thou wish to see," and Mrs. Louise Phillips of Madison was introduced and read a poem. President Hoard then delivered the annual address. Rev. S. D. Peet of Clinton made some interesting remarks regarding the early history of that part of the State. Judge Ryan then read a short biographical sketch of the late Albert G. Ellis, of Green Bay, the first editor west of Lake Michigan, and the evening's exercises were closed by the Ladies Quartette singing, "Sleep, Dreamer, Sleep."

Wednesday dawned bright and clear and members of the press and invited citizens repaired to the Ludington dock and boarded the steamer "Welcome" for an excursion to Sturgeon Bay, accompanied by the Marinette Band. Arriving about eleven o'clock, were met by citizens with carriages and the party conveyed to Hahn's Opera House, where tables were loaded with good things that delighteth the heart of an editor. The hall was tastily decorated, A. D. Thorp, on behalf of citizens, welcomed the party and M. H. Barnum, of Wausau, responded with thanks. Many of the visitors enjoyed a drive around the village, and may we never see the day when we forget our cordial welcome at the picturesque village of Sturgeon Bay. At two o'clock they again embarked and steamed out through Sturgeon Bay Canal into Lake Michigan and back to Marinette. In the evening the good people of Marinette prepared a magnificent banquet at the Opera House; five long tables were spread with the choicest viands, fruits and flowers, and 300 guests partook of the splendid repast interspersed with music from the Ladies Quartette, Marinette Cornet Band, and Italian Band of Milwaukee, after which the following toasts were read and responded to:

"The city of Marinette heart and soul to the Wisconsin Press Association, greeting."

Response by Hon. H. O. Fairchild, of Marinette.

"The Wisconsin Press Association to the people of Marinette: We came, we saw, and we were conquered."

Response by M. H. Barnum, of Wausau.

"The ladies of Marinette, lovely in heart and person, as this occasion witnesseth."

Response by Hon. J. C. Bartholf, of Milton.

"The grand trinity of this occasion: The Marinette, the Wisconsin, and the North Michigan Press."

Response by Jas. Russell, of Marquette Mining Journal.

After the banquet the young people repaired to Wilson's Hall and enjoyed the mazy until one o'clock, and thus ended the festivities of a day long to be remembered by those present.

Thursday morning the party shook hands with old and new found friends in Marinette and started on an excursion to Ishpeming, arriving about one o'clock, they spent the afternoon in visiting the iron mines and other objects of interest.

Friday morning the cars occupied were hauled by the M. H. & O. R'y Co. to Marquette, a distance of eighteen miles. At this charming city all were most heartily received and carriages were in readiness for a drive about the city, which was greatly enjoyed. The huge ore docks were interesting to many from the southern part of the State. At 12:30 we again took to our sleepers and started homeward over the Northwestern Railway, arriving in Milwaukee at 3 A. M.

This meeting and excursion was one of the most enjoyable the Association has ever had; the courtesies received of railroads over which we passed and of the people where we tarried were the most generous and merit the gratitude of all who participated.

The success of this meeting and excursion in contributing to our amusement and comfort is largely due to the untiring labor of our honored president, W. D. Hoard, worthy secretary, J. E. Heg, E. D. Coe and A. J. Cheeney.

ITEMS OF INTEREST.

WHEAT RAISING IN CALIFORNIA—According to Daniel Spangler, a Californian, the question of growing wheat at figures that shall defy competition throughout the world has been solved by himself and the "galorious climate of Califawnee." He says he can grow his wheat, harvest and put it in the granary at a cost of less than 20 cents a bushel. His figures for putting in 5,000 acres of wheat are as follows: Seed and feed, 200 tons at \$24 per ton, \$4,800; 100 tons of hay, \$400; six teamsters five months at \$30 a month, \$900; two roustabouts at \$25 a month, \$250; one blacksmith five months at \$2 a day, \$250; one cook, \$125; coal, iron and steel, \$100; provisions for five months, \$500; interest on sixty head of mules and horses, \$300; wear and tear on same, \$300; wear and tear on plows and harness, \$100; total, \$8,025; interest on \$8,025 for four months, \$602; total cost, \$8,627. Large saving could be made over these figures by keeping the seed and feed stored on the farm, thus saving two haulings, sacks and storage, which cost about \$4.50 a ton. On the two hundred tons this saving would amount to \$900, which, taken from the above total, would leave \$7,727 as the total cost of planting the five thousand acres. On

a yield of ten bushels to the acre this would bring the cost to 15 cents a bushel, on twelve bushels to the acre to 13 cents a bushel, and on fourteen bushels to the acre to 11 cents a bushel.

HINT TO HOUSEKEEPERS.—Persons purchasing flour should be particularly careful to get it in air tight packages if possible. Flour is a great absorbant of gases and vapors, and when not in air tight sacks or barrels will be permeated by deleterious odors and deteriorated to a certain extent, no matter how pure and sweet when leaving the mill. Especially is this the case in stores where there is an accumulation of goods and merchandise, such as coal oil, fruit, groceries, vegetables, etc., from which a vapor and odor arises which fills the room and is absorbed by the flour, deteriorating the flavor and impairing its purity. Cotton sacks should be particularly avoided, inasmuch as they are porous and therefore no protection against absorption. Sacks made of paper are air tight and therefore impenetrable by insects, gases and odors, retaining the flavor of the flour, keeping it sweet and pure, and therefore should be used exclusively for household purposes.—*Harisburg, Pa., Independent.*

THE calculations of E. H. Walker of New York imply that this country can spare for export 125,000,000 bushels of wheat during the year now opened, of which he reckons that 100,000,000 will be available for Europe and 25,000,000 for other countries. He says: "The importing countries of Europe will probably require, in case consumption shall be normal, with present prospects for the output of the European wheat crop of 1888, at least 300,000,000 to 310,000,000 bushels, of which about 121,000,000 bushels will be obtained from the exporting countries of Europe, leaving 179,000,000 to 189,000,000 bushels to be obtained from exporting countries outside of Europe, of which 100,000,000 bushels will be obtainable from the United States, Atlantic and Pacific coasts. India, Chili, Argentine Republic, Australia, Canada, Egypt and Persia will contribute to the supply of the remainder."

UNIVERSAL VERDICT.

During the few weeks in which the new route of the Wisconsin Central Line between Chicago and St. Paul and Minneapolis has been in operation, it has acquired a popularity almost unknown in the history of railroads. Nor is this surprising if we investigate the cause of its success. The road-bed, rolling stock and entire equipment of the new line are equal to any in the country. It runs the fastest trains with the least restrictions and it spares no endeavor to secure comfort and ease for the traveling public. The fast train between Chicago and St. Paul leaves Chicago at 4:40 P. M. and Milwaukee at 7:40 P. M., daily, and arrives in St. Paul at 7:15 and in Minneapolis at 7:50 the next morning. All classes of tickets are accepted on this train, which is unlimited in this respect. Two trains are run daily in each direction between Chicago and St. Paul and Minneapolis, and three trains daily in each direction between Chicago and Fond du Lac, Oshkosh, Chippewa Falls and Eau Claire. It is the only line running a daylight train through the State of Wisconsin. The dining, sleeping, and parlor cars are the exclusive property of the road, and noted for their elegance and comfort, and last but not least, the employes are, without exception, courteous and obliging, perfectly disciplined, and attentive to the wants of the public. We predict for the new route a large business and a warm spot in the heart of every traveler.

PETROLEUM AS A BOILER SCALE RESOLVENT AND PREVENTIVE.

The use of crude petroleum in steam boilers for the purpose of preventing scale formations has prevailed for many years, with more or less success. The fact that 85 per cent of the material used vaporizes at a lower temperature than that of the boiler (350° F.) leaving little less than the tar or residuum behind, has been the greatest drawback to its complete success.

The possibility of the tar going over with the steam and obstructing valves has been a further objection to its use. A heavy natural oil, free from tar, reduced by distillation until a fire test of 600° F. is reached, and compounded with elements having valuable resolvent properties, has received the highest commendation by the leading steam engineers of Pittsburgh.

The insignificant cost of from 7c. to 10c. per week for the largest-sized boilers is a great item in its favor.

A quart per week, placed in the boiler after washing out and before filling, is all that is required. The action of the oil is more of a mechanical than chemical nature.

As the water rises the oil coats the shell of the boiler, as also the flues or tubes, and the impurities in the water, whether they consist of sulphates, carbonates or mud, make a greasy emulsion that will not cake or crystallize on the iron.

In from three to eight weeks after using, all old scale will disintegrate and pass away, leaving the iron in perfect condition, and no new scale will form, no matter what the character of the water. After a few weeks' use the mud drums, legs and parts of the boiler not subjected to the greatest heat will be found literally smeared with oil, while such parts of the boiler as receive the greatest heat will be as clear and bright as new iron. As petroleum is proof against acids, this coating of oil is absolute proof against sulphurous water.

A large establishment in Pittsburgh has been using petroleum resolvent in its boilers for three years without spending a cent for repairs, while previously the boilermaker's gang were at work on them every Saturday night in the year.

Worse scale could scarcely be found before the use of the resolvent, while now their condition is pronounced by the inspectors as the cleanest boilers in the county.—*American Manufacturer.*

CARP IN MILL PONDS—We have numerous inquiries regarding the stocking of mill ponds with carp. Our invariable reply is that most mill ponds are too large and deep, contain other varieties of fish and cannot be readily drained twice a year, which is absolutely necessary in systematic culture, and unsystematic culture is sure to be unprofitable. The only proper way to utilize mill ponds for carp is to make them the receptacle for surplus young stock from regular carp ponds of the neighborhood. In this way a mill pond would soon receive thousands of young carp. A large majority of these would be destroyed by predatory varieties of fish already in the pond, but a goodly number would escape their enemies and soon outgrow them and thus become safe from intrusion until disturbed by their human enemies. In placing young carp in mill ponds

they should be planted in grassy places where they can readily hide from their enemies. Another difficulty in mill ponds will be the presence there of some of the common members of the family Cyprinidae to which the carp belong and with which they will hybridize. This hybridized progeny is nearly worthless as food fish.—*Journal of Fish Culture (Phila., Pa.)*

OPERATION OF THE MARSHALL AUTOMATIC SCALE.—The weighing chamber is divided centrally and arranged on knife edges, being supported and suspended by scale beam.

The chamber receives the material from the spout above the scale, alternately on each side of its central partition, as soon as the required weight has been received (which is determined by a counterpoising weight suspended from the opposite end of beam). The chamber descends bringing V (that operates cut off) in contact with stationary spring, which reverses the flow alternately from side to side, at the same time and by same movement a valve at the lower part of the loaded side of the receptacle opens and the material discharges from that side before the other side is filled. Each bottom of the receptacle has a valve of this kind, which is held closed by upright rods, connected and operated by V while the side is filling, but which, when the chamber descends, opens and closes alternately.

To adjust scale.—Let a full stream of material into spout above scale, catch a few dumps (separately) as it comes from scale and weigh on ordinary scale. If draft weighs less than amount desired, slide the adjusting "ball" (which is held fast by set screw) towards the end of the beam. If more than desired amount, slide it in the opposite direction. Thus regulate until the weight corresponds with the scale you have in use, and from this standpoint you secure corresponding accuracy.

By means of regulating lever motion is transmitted to the register at each discharge of the weighing chamber, and the amount of material having been weighed is accurately recorded.

To reset the register begin at the lower end of register and turn each dial alternately in opposite directions to the figure 9 until last dial is reached, which being turned to "O" will turn all dials to O.

If at any time scale fails to perform its work entirely satisfactory, the manufacturers will give it their personal attention. For further particulars address J. B. Dutton & Co., 52 Woodward Avenue, 2d Floor, Detroit, Mich.

UTILIZING NIAGARA AS A WATER POWER.—Engineers pronounce the project of tapping Niagara river by means of a canal and bringing the water to Lockport entirely practicable, and experts have declared that not elsewhere in the known world are there such natural advantages for the creation of a gigantic water-power, and that it can be delivered at Lockport to the extent of 300,000 horse-power if so much shall be wanted, at a minimum of expense. Lake Erie and all the great upper lakes would be the mill pond for this power—the Niagara river the head race, and Lake Ontario its tail race. The supply of water can never be diminished by drought, no spring floods nor freshets will tear away

the dams—for there will be no dams. The supply of water will be uniform, uninterrupted and practically unlimited. The Lockport Water Supply Co. have commenced work preliminary to the erection of extensive manufacturing establishments.—*Iron Age.*

TAKING CARE OF HIS BOILERS.—The *Locomotive* gives an account of the behavior of an engineer at a fire in a manufacturing establishment that might well be posted up in every engine room in the country.

This man, when the fire broke out, instead of taking to his heels, stood by his boiler long enough to take precautions which saved it from any sort of damage. He filled the boiler with water, drew the fire, closed the fire doors, saw that the safety-valve was perfectly free, and in addition blocked up the valves of his engine and left the throttle wide open, so that there should be no obstruction to the free escape of the steam which might be generated in case the safety-valve should stick from the effect of the intense heat, or through the timbers of the boiler-house falling on it. As soon as the ruins had cooled off sufficiently to permit it, he drew the water remaining in the boiler from it in order that no damage should result from freezing. As a consequence of this exercise of intelligence and forethought, the boiler remains uninjured, although the heat was sufficient to destroy all the fittings and attachments.

A NEW TRAIN.

On and after August 23rd the Green Bay, Winona & St. Paul Railroad will run a daily train (except Sundays) from Grand Rapids and Stevens Point to Green Bay and return, leaving Grand Rapids at 7:40 A. M., arriving at Green Bay at 11:40 A. M. Returning, leaves Green Bay at 3:55 P. M., arriving at Grand Rapids at 8:00 P. M.

This train going east connects with the Milwaukee, Lake Shore & Western Railway at New London Junction, for all points south, and at Green Bay with the Chicago & North-Western Railway for points north and south, and Milwaukee & Northern Railway for all points south.

The west bound train, leaving Green Bay at 3:55 P. M., connects at New London Junction with the Milwaukee, Lake Shore & Western Railway for Clintonville, Wausau, Antigo and Rhinelander. Also, at Amherst Junction with the Wisconsin Central Line for all points south.

See local time table. Important changes in all trains.

THE N. Y. COMMERCIAL BULLETIN has posted up the fire loss account for the first half of the current year, and finds a footing of \$53,900,000, in which are embraced 999 losses of \$10,000 and upward. The *Bulletin's* record of the fires for the first-half of 1885 showed a loss of 50,750,000. The excess for the same period this year is \$3,150,000. Is it not strange that with such facts constantly spread before the public, that nothing can be done to prevent such waste? That a large amount of this waste could be prevented by proper legislation cannot be doubted, and yet so simple an act as one to prevent the frequency of fires in this country of legislative enactments cannot be secured. Municipal, state and national legislatures have been appealed to in vain for a system of inquests upon the occurrence of fires. We cannot get any good building law or laws against the reckless handling of materials tending to produce fires. On all other subjects we have a surfeit of legislative enactments. On this important subject no legislation of any value can be had.

PROPOSITION FOR A PURIFIER TEST.

We have recently displaced a large number of the so-called "Standard Purifiers," and have made numerous tests, running the machines side by side on the same stock, and have in every instance demonstrated the superiority of our "IMPROVED SPECIAL PURIFIER" over all others, and having faith that we are building the best purifier made in this country, we propose to enter into a *public test* with any well known standard purifier, the expense of such test to be borne equally by those entering into the same. The judges shall be selected by lot from fifty expert millers and shall perform their duties under oath.

We make another proposition to the millers. We will send our *Improved Special Purifier* on trial to be tested against any machine made, and if it does not prove not only equal but *superior* in its *aggregate merits* to any purifier made, it may be returned at our expense.

We know absolutely beyond the least possibility of doubt that we are making the *best Purifier made in the world*, and can prove it if any firm dare meet us in public test.

CASE MANUFACTURING CO.,
Columbus, Ohio.

THE prominence of English working-men in British politics is aptly illustrated by the position of the stone-mason, Henry Broadhurst, in Gladstone's recent cabinet. This aspect of political reform in Great Britain is not generally appreciated, and just now the article on "Working-men in the British Parliament," which appears in the September *Harper's*, is exceedingly interesting. The writer, Edward Brown, describes the operations of trades-unions by which the laborers' representatives are sustained in the House of Commons; and the rapid progress of their influence is most encouraging. The record of Mr. Broadhurst during his five years of parliamentary work is certainly remarkable; also the career of Joseph Arch, the famous president of the Agricultural Laborers' Union, who numbers the Prince of Wales among his constituents. The article is enriched with twelve portraits of working-men members of Parliament.

AND now the Pennsylvania millers have organized a mutual insurance company. Is not this mutual insurance business among millers being slightly run into the ground? We think it is and predict that there will be a grand smash among several of the new and weak companies, unless great care is taken. There are more millers' mutual insurance companies in the field now than circumstances warrant. It is far better for millers to build up, say two good strong companies, than to try to maintain a half a dozen companies, in which latter case some or all are sure to be weak and unable to stand a succession of heavy losses.

THE MILWAUKEE INDUSTRIAL EXPOSITION.

This Exposition was opened to the public Sept. 1, and it is gratifying to the management to be able to say at this date (Sept. 11), that so far it has been more successful than any of its predecessors. The exhibits are very numerous and attractive in nearly all branches of trade, and the attendance has

been very large. The first special attraction is the Japanese village, which is indeed interesting. While in the department devoted to this display, one can almost imagine himself in Japan. Numerous other special attractions will be provided as time passes on, all of which will be of great merit. We trust all that can do so will visit the Exposition and inspect its many excellencies. Mr. Paul Bechtner, the manager, and Mr. Treat, his worthy lieutenant, are to be congratulated on the unparalleled success their efforts have met with.

OUR DULUTH LETTER.

DULUTH, MINN., Sept. 10, 1886.

The growth of the carrying trade between this city and the rapidly growing communities of the great and boundless West and Southwest, is exhibited in wheat receipts at this point this year, as compared with those for similar periods in 1885.

The wheat receipts for the first four days of this week have been as follows:

	CAR-LOADS.
No. 1 hard.....	1,304
No. 1 Northern.....	174
No. 2 Northern.....	15
Rejected.....	3
No grade.....	26
Winter.....	1
Total.....	1,523
Corn.....	20
Oats.....	1
Barley.....	2
Total grain.....	1,555

Equaling about 822,000 bushels of wheat and 17,000 bushels of corn. Shipments during the week to date have been 318,820 bushels, with about 50,000 to go out to-day and 30,000 to-morrow. The increase in stock during the week will therefore be in the neighborhood of 650,000 bushels, giving Duluth considerably over 4,000,000 in store next Monday morning, nearly half the city's storage room. The elevator companies expect soon to begin repairs on the two large wheat sheds near elevators F and G, and will shortly erect at least one additional shed. From present appearances, with an increase of six or seven hundred thousand bushels a week, the capacity will soon be needed.

Several of our Duluth grain commission houses are more or less intimately connected with Milwaukee dealers.

The Van Dusen-Eliot Co. is now receiving consignments of over 100 car-loads of wheat daily. Robert Eliot & Co., are the correspondents of this company in Milwaukee. The millers of Wisconsin frequently find it advantageous to come to Duluth for our unequaled No. 1 Hard or No. 1 Northern Spring Wheat, to mix with wheat of local production, as is usually done by the great flour producers of Minneapolis, and cities of the East as well as those of the West.

The increase of business in Duluth is made very evident by the rapidly increasing railroad facilities. The Omaha had all the work that was planned to be done here this season completed some time ago, but business has been so much better than was expected that it became necessary for more yard room. The new yard is situated on the east side of Third street, Rice's Point, between Oak and Elm street. When completed it will be 2,000 feet in length and of sufficient width to accommodate thirteen tracks. But five of these, however, will be laid this fall. The yard

will have many conveniences. At the north end is the round house. Near to this on the south a water tank is to be placed, and not far from these will be located a coal shed, a convenience as yet possessed by none of the roads at Duluth. A grade is nearly finished for a double track from the Madison school to elevator G. At the rate tracks have been laid during the past year it will require but a very short time to cover the entire point with a complete net-work of rails.

The Omaha line, as it is here called, is controlled and operated by the C. & N. W. R'y.

The time is rapidly approaching when three more roads now running westward and northward from Milwaukee, will seek an entrance to Duluth over their own lines.

The new steamer Vernon arrived here yesterday morning bringing through eight passengers from Chicago and a light freight. Captain Bussey reports a fine trip. During a head wind and sea off Manistique, the vessel averaged twelve and one-half miles an hour. She has license to carry ninety-two passengers.

The Vernon is to make two round trips each week, from Duluth to Bayfield, Ashland, Port Arthur and return.

The Vernon left on her first regular trip last night, she will prove a great acquisition to the Duluth fleet, and her owners are much pleased with her performance on her first trip. Booth & Sons will use her almost entirely as a deep water passenger boat, and she will keep as far as possible outside the islands. Her depth of water and beauty, both inside and out, render her too fine for a fish cruiser. The Camp will do nearly all the firm's fish business.

One new elevator is now being erected on the south side of the bay, of a capacity of 1,500,000 bushels. Two others will be built at Duluth early the coming winter, and it is now probable that still another large terminal elevator will be erected here within this year. This elevator will be located on the Duluth Improvement Company's property, and will be of large capacity. Appearances indicate an increase of at least 8,500,000 bushels in the storage capacity of Duluth during the coming winter.

Building operations are in progress in every part of our city. There is a notable increase in the number of dwellings in process of erection. Real estate is moderately active and transfers indicate a healthy growth without the characteristics of wild speculation common to some of the extreme western cities.

There has been considerable activity in, and inquiry for, iron lands in northeastern Minnesota recently, and several important transactions are pending between L. J. Barnes, a prominent land agent of this city, and eastern capitalists.

More anon.

ZENITH.

AMONG THE NORTHERN LAKES

of Wisconsin, Minnesota and Iowa, are hundreds of delightful places where one can pass the summer months in quiet rest and enjoyment, and return home at the end of the heated term completely rejuvenated. Each recurring season brings to Oconomowoc, Wauesha, Beaver Dam, Frontenac, Okoboji, Minnetonka, White Bear, and innumerable other charming localities with romantic names, thousands of our best people whose winter homes are on either side of Mason and Dixon's line. Elegance and comfort at a moderate cost can be readily obtained. A list of summer homes with all necessary information pertaining thereto is being distributed by the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY, and will be sent free upon application by letter to A. V. H. Carpenter, General Passenger Agent, Milwaukee, Wis.

NEWS.

J. E. FELLOWS, miller of Nanticoke, Pa., is dead. A new roller mill is being built at Glen Elder, Kan. BURNED—Montgomery & Co.'s mill, at Opdyke, Ill. A 500-barrel mill is being built at Rochester, N. Y. J. B. JACKSON is building a roller mill at Ladonia, Tex.

C. H. NUTTER & BRO., of Brighton, Ill., have assigned.

M. ACKERMAN & CO., of Lincoln, Neb., have dissolved.

THE Atlanta Milling Co., of Atlanta, Ga., have dissolved.

J. C. GINTHER & CO., millers at Perryville, Kan., have sold out.

HILLSBURG, Ind., offers a liberal bonus for a steam flour mill.

HIRAM WILKERSON, a miller at Boonsboro, Mo., is reported dead.

DISSOLVED—Walker & Whittaker, millers, at Carthage, Mo.

The mill of Jos. Clark & Co., Ogden, Utah, was burned Aug. 23.

A GRIST MILL has been built at Mayesville, S. C., by S. M. Graham.

S. A. WHITE has started up his new 75-barrel mill at Batchtown, Ill.

The new 50-barrel roller mill, at Thompsonville, Ill., is now running.

OTTO BUCHERL & BRO.'s mill and gin at Cuero, Tex., was burned out lately.

A GRIST MILL is about to be built at Williamsburgh, W. Va., by Jos. Griffee.

At Kings, Cal., a 100-barrel roller mill is building for Ellis & Shackleford.

E. C. ALLENDER, miller at Morgantown, W. Va., has made an assignment.

MARTENSTEIN & CO. are building a 100-barrel roller mill at San Francisco, Cal.

THE Fairview Milling Co., of Fairview, Utah, are building a 50-barrel roller mill.

W. J. MATHE'S flour mill at Kenton, Tenn., was recently burned. Loss, \$7,000.

P. P. McLEAN's flour mill at West's Mills, N. C., was recently burned. Loss, \$8,000.

M. PUTZ has purchased the flouring mill at Mitchell, O., formerly owned by Stewart & Pett.

The contract has been let for machinery for a new flour mill to be built at Delaplane, Va.

EFFORTS are being made to form a stock company to erect a large mill at New Hampton, Ia.

ROCK VALLEY, Iowa, is to have a roller mill ready for operation about the first of next year.

AT Bloomingdale, N. Y., Milo B. Miller's grist mill was destroyed by fire. Insurance, \$4,000.

The firm name of M. C. Dow & Co., of Cleveland, O., has been changed to Dow, Clark & Gardner.

The steam mill now being built at Kimball, Ia., will be ready for business about December 1.

The ground has been purchased and the contract let for building a \$7,500 mill at Rosedale, Kan.

HOBART & KRIEGL have let a contract for the erection of a complete 60-barrel mill at Carthage, Ill.

WOODWARD BROS.' mills, at Lapel, Ind., were burned Aug. 17. Loss, \$15,000; insurance, \$8,000.

CHASE, Kan., offers a bonus of \$1,000 and building site to party who will build a 50-barrel mill there.

THE Hope flouring mill, owned by Josiah McJunkin, near Meroo, Pa., was burned Sept. 2. Loss, \$8,000.

MESSES HUGHES & FLETCHER are erecting a grist mill at Moosomin, Man. It will be completed Oct. 1.

MORGAN BROS.' flour mill at Hamilton, Ont., was damaged by fire Aug. 12. Loss, \$8,000; fully insured.

THE steam flour mill at Ogden City, Utah, has been burned. Estimated loss, \$20,000; insurance, \$10,000.

THE steam flour mill of W. B. Norman, 14 miles from Washington, Ga., was recently burned. Loss, \$10,000.

KEYNES & WELLMAN's flouring mill, at Logan, O., burned down Aug. 12. Loss, \$50,000; insurance, \$10,000.

THE contract has been let for building a stone mill, 40x60 and 30 ft. high, for Markley Bros., of Bennington, Kan.

A COMPANY has been organized for the purpose of erecting and operating a new mill and elevator at Teller, Dak.

THE mill of James Bollinger, of Piedmont, Kan., is reported as being totally destroyed by a sudden rise in the Elk river.

ENCOURAGEMENT of a substantial nature will be given the right party who will build a flouring mill at Corydon, Ind.

HANOCK's elevator, containing 8,000 bushels of grain, burned Aug. 14, at Oakland, Iowa. Loss on building, \$5,000.

THE Vergennes, Ill., Milling Co. have just completed and put into operation a full roller mill of 75 barrels capacity.

ARTICLES of incorporation have been issued to the Herdman-Harrison Milling Co., of Morrisonville, Ill., Capital stock, \$30,000.

THE Esmond Milling Co., with a capital stock of \$60,000, has been incorporated, and will conduct business at Fort Wayne, Ind.

THE flouring mill at Falmouth, Ky., owned by Applegate & Hamilton, was recently destroyed by fire. Loss about \$20,000.

THE Kearney flouring mills, owned by W. C. Tillson at Kearney, Neb., were recently burned. Loss, \$15,000; insurance, \$8,000.

FIRE destroyed the roller mill of Lee & Brown, Saranac, Mich., on the afternoon of Aug. 27. Loss, \$25,000; insurance, \$8,000.

The contract for building the new 1,000-barrel mill at Postoria, O., has been awarded to the Stillwell & Bierce Mfg. Co., Dayton, O.

THE Lemhi Milling Co., of Salmon City, Idaho, are building a 50-barrel, water power, combined roller and stone mill at that place.

WILLIAM FRANCIS, mill owner at Cassville, N. J., lately committed suicide. No cause is known for the commission of the deed.

A STOCK company has been organized at Burnet, Tex., with a capital stock of \$50,000, for the purpose of building a 100 bbl. roller mill.

A FLOUR dust explosion occurred at Bellows' flour mill, New York City, on Aug. 19, causing a loss of about \$1,500. No one was injured.

AUG. 31, at Turner's Falls, Mass., Southworth Bros.' grist mill was burned, causing a loss of \$5,000, on which there was an insurance of \$3,000.

THE mill of Cooper & Son, at Wesleyville, Pa., together with four other buildings, were destroyed by fire Aug. 12. Loss, \$15,000; insurance, \$8,000.

THE mill being built at Longmont, Col., by the Longmont Farmers' Milling & Elevator Co., will be a full roller, with a capacity of 250 barrels per day.

A 100-BARREL flouring mill is wanted at Plainview, Minn., and a material bonus will be given to any enterprising party who will undertake its erection and operation.

THE Eagle Corn Mill Co., with a capital stock of \$50,000, has been incorporated at Dallas, Tex. The interested parties are J. N. Hughes, W. J. Betterton and G. E. Felton.

THE Ponca Mill Co., consisting of John Stough, Jacob Stough, S. K. Bittenbender and S. Mikesell, has been incorporated at Ponca, Neb., with a capital stock of \$50,000.

THE Cameron Roller Mill Co. are building a 250-barrel, eight break roller mill, a 2,000 bushel roller process meal and grits mill, and a 100,000 bushel elevator at Waco, Tex.

DUNN & THOMPSON have leased the elevator at Wahpeton, Dak., and the line of warehouses at Milnor and other places, of the defunct Wahpeton Mill and Elevator Company.

AT Easthampton, Mass., Sept. 3, the Manham grist mills, recently bought by J. E. Clark, Dr. S. T. Seelye and E. R. Bosworth, were burned with a loss of over \$3,000; insurance, \$1,500.

THE large flouring mills of Buck & Hoff, in Manchester, Va., were totally destroyed by fire, July 30. Loss, \$75,000; insurance, \$65,000. The fire was caused by friction of the elevator machinery.

THE large flouring mill, located on Tiffin river at Brunersburg, O., owned by Bree Hilton, was on

Aug. 21, completely destroyed by fire. Loss, \$12,000; insurance, \$6,000. Cause of fire, incendiary.

THE Hough Mills, owned by David Pierson, at Carrollton, Ill., was burned on the night of Aug. 19 with its total contents. The mills were the oldest in the city, having been built in 1868. Loss, \$20,000; insurance, \$5,000.

A NEW mill and elevator are to be built at Monte Vista, Col. The mill is to be of stone, four stories high, and of the most approved pattern. The machinery has been ordered, and will include all the latest improvements.

ARTICLES of incorporation were filed Aug. 21 by The Avery Elevator Bucket Co., of Cleveland, O. Capital stock, \$50,000. The company consists of Henry W. Avery, M. C. Dow, E. H. Williams, B. A. Bruce and F. W. Judd.

LOW water has been the cause of much anxiety among the Minneapolis millers during a considerable portion of August. The owners of the flouring mills that are not already supplied will no doubt soon equip themselves with engines.

THE Eagle Mills, owned by the Eagle Milling Co., at Quinoy, Ill., was destroyed by fire on Monday, Aug. 30. Loss, \$60,000; insurance, \$27,000. The mill had not been in operation since March. This makes the fourth flouring mill destroyed by fire in that city within the past four months.

THE Ohio Valley Roller Mill, at Gallipolis, O., owned by L. Comstock, Jr., & Co., was on Aug. 8 entirely destroyed by fire, supposed to have originated on the third floor from a hot box. The mill was valued at from \$25,000 to \$30,000. There was an insurance on the mill, machinery and stock of \$18,000.

THE Minneapolis Millers' Union the organization which will take the place of the Millers' Association on Sept. 7, met Aug. 13, and elected the following officers: C. A. Pillsbury, president; E. Zeidler, vice-president; F. L. Greenleaf, secretary and treasurer. Every miller in Minneapolis has signed the articles of agreement.

THE large three-story frame flouring mill, near the Lake Shore depot, at Laporte, Ind., owned by S. Bosserman, was on Aug. 23 discovered to be on fire. Although the building did not burn down entirely, it is a total loss. The fire was of incendiary origin. Loss between \$8,000 and \$4,000; no insurance.

GEORGE M. BRUSH has just been made general manager of the Winona Mill Company, of Winona, Minn., and their line of warehouses and elevators. This company, in addition to their Winona property, own thirty-two elevators and warehouses in Minnesota and Dakota. Mr. Brush takes immediate charge, but will not move his family to Winona for several months to come.

In consequence of the death of J. A. Christian, of J. A. Christian & Co., Minneapolis, Minn., the firm, consisting of L. Christian, C. H. Pettit, Wm. Pettit, J. M. Robinsen and F. R. Pettit, on Sept. 1 assumed the style of Pettit, Christian & Co., and will operate under the management of F. R. Pettit, using the same brands and trade marks as were used by the firm under the old style.

In consequence of the heavy rains throughout the state of Kansas, the Saline river rose 15 feet in six hours. The flour mill of Merriman & Masterson, at Sylvan Grove, was entirely destroyed. The mill, which was one of the best in western Kansas, was swept from its foundation, and it went to pieces. A considerable portion of the machinery and milling effects were removed from the mill previous to its destruction, but what remained was lost in the bottom of the river. The property was valued at \$12,000. It is the intention of the owners to rebuild.

THE crop returns to the Department of Agriculture indicates a slight improvement in spring wheat throughout the country, with the exception of Dakota, where there has been quite a reduction, owing to drought and chinch bugs. European reports indicate that the general outlook is for a crop rather under medium. In England the harvest is a fortnight late, owing to cool, wet weather, and the outturn is placed at 26,000,000 bushels less than in 1886. In France rains have delayed the harvest and beaten down some grain; in Germany a good crop is indicated, also in Roumania; in Southern Russia it was estimated that there would be but half a crop.

We will send the U. S. Miller and American Miller for one year for \$1.50.

PLEASANT PARAGRAPHS.

A MILD I'URGATIVE.—A respectable looking female, the other day, called at the office of one of our leading physicians complaining of a very severe pain in her bowels. The doctor gave her a cathartic, and told the female sufferer to call again in a day or two, which she did. To the inquiry, if she had taken the prescription, as ordered, she replied in the affirmative. The doctor then inquired if she had passed anything since taking the medicine. After a momentary reflection, she said she had passed a couple of mules and a drove of hogs!! The smiling son of Esculapius hoped she felt relieved. She said she did "very much so."

"PAPA," said the daughter of a large employer of labor, "are you in favor of the eight-hour system?"

"Well, daughter," he answered, "under certain circumstances, I am."

"O, I'm so glad," she rapturously exclaimed. "Why, my dear, why are you so interested?"

"Because, papa, George has been only staying four hours every evening, and he told me last night if you favored the eight-hour system he needn't go home nearly so early. You dear old papa. I'm so glad you are in favor of it," and she threw her soft, white arms about his neck and choked off all explanations.—*Washington Critic*.

FATHER FINNIGAN is of a forgetful temperament, and long custom has made him dependent upon lead pencil notes and the assistance of Pat., the sexton. It is time to read the list of the dear departed for whom prayers are to be offered, and Father Finnigan has forgotten their names and lost the list. Above the hushed and kneeling congregation floats the following holy whisper:

"Patrick! where are the souls of the dear departed?"

"They're undher a silvher candlesstick, yer riverence, at the ixtrme lift av the Virgin Mary!—*San Francisco News-Letter*.

"Ah, good morning; nice morning," was the salutation of a Hartford gentleman to his friend. "How are all the folk?"

"O, nicely. As well as could be expected."

"Why, what is the matter?"

"O, nothing much. I've been boycotted, that's all."

"Boycotted?"

"Yes. My third girl was born yesterday."

PLUMBER was looking over a dictionary in a lawyer's office the other day. Looked so long that the lawyer inquired:

"What word are you after?"

"I want to find 'sanitary plumber' and see what it means. So many of our craft are hanging up the sign that I've got to follow suit, but I don't want to be caught silly when anybody asks the meaning."

Lawyer convinced him that it meant charging up three pounds of solder in the bill for stopping a pin-hole leak.

FLORENCE, aged four, demanded as her perquisite the wishbone of every fowl brought into the house. One day she was carefully arranging her collection, when her father came into the room. She said,

"Fader, is you doin' to die?"

"Why, yes, Florence, we must all die some time," he said, touched by her earnest look.

"Fader, when you does die, may I have your wishbone?"—*Rome Sentinel*.

HE MADE A SALE.—Saloonkeeper (to his little boy who has been left in charge for a few minutes)—"Vell, Heinrich, haf you sold noddings vile I was out?"

Little Boy—Ya, fadder, I sold dot old slate for 50 cents. Der shentlemans said ve could buy a new von for 10 cents. Dot was a great bargain, fadder.—*Life*.

"YES, I'm in the lecture business," said the long-haired passenger, "and I'm making money. I've got a scheme, I have, and it works to a charm. Big houses wherever I go."

"A scheme?"

"Yes. I always advertise that my lectures are specially for women under thirty years of age and for men who are out of debt. You just ought to see the way the people come trooping in. —*Chicago Herald*.

"GRAN'MA," said a boy of nine years, "how old are you?"

"About 60," said the grandmother.

"You'll die soon, won't you, gran'ma?"

"Yes, dear, I expect to."

"And when I die, gran'ma, can I be buried side of you?"

"Yes, dear," said she, as her heart warmed toward the little one, whom she folded in her arms.

"Gran'ma," softly whispered the little rogue, "gimme 10 cents.—*Clinton (Mass.) Bugle*.

JOHNNY (just after Sunday-school)—"Say, Jack, what is a sockdolager?"

Jack—"Why, don't you know? That's what they sing in church when they get ready to go home. The minister gets up and says: 'Let us now sing the sockdolager.' —*Boston Beacon*.

Miss Carrie Damm, of Cincinnati, was married the other day. Her name is known wherever the English language is spoken.—*Atlanta Constitution*.

A LOUISVILLE man disturbed in his sleep by a large company of cats, crawled out on the roof, and instead of firing off his pistol, thus addressed the gathering: "If eight cats kill eight rats in eight minutes, how long will it take 100 cats to kill 200 rats?" Before he had uttered the last word every cat had disappeared, and he has never seen one of them since.—*Louisville Courier-Journal*.

A RATIONAL CHANGE.—"Arkansas!" exclaimed an ardent man, "why it is the best State in the Union, a State above all others in resources and the exactness with which the criminal laws are enforced."

"I am astonished to hear you speak so well of the State," some one replied.

"Why so?"

"Because, several years ago, during an exciting campaign in Indiana, you avowed that there was no such thing as justice in Arkansas, a State where a man carried his life in his hand."

"That is very true, my dear sir, but I was a politician then."

"And what are you now?"

"A land agent."—*Arkansas Traveler*.

"Havn you got any stale bread?" asked Johnnie Fizzletop, sticking his head into a baker's shop.

"Yes, I have five or six loaves."

"Serves you right. Why didn't you sell 'em while they were fresh?"

A PRIESTLY JOKE.—Some people who are not acquainted with priests have an idea that

they are solemn, stern men who can't appreciate a joke and never think of telling one. Yesterday it was the good fortune of a reporter of this paper to meet a priest who is frequently called to the Charity Hospital and who has accomplished much good in reforming the unfortunate people so often found in that institution. During the conversation the reverend father told numerous amusing anecdotes of his personal experiences, and wound up a very pleasing evening by telling a funny story about a priest in Ireland, who was laboring to get a number of convicts to join the Catholic Church. It seems seven men were sentenced to be transported, and among the number was an Irishman convicted of counterfeiting. According to the custom of the country, the convicts were allowed to choose any religion they desired to adopt, and the Irishman made up his mind that they should all become Catholics. Accordingly, when they assembled in the prison-yard the subject of religion was brought up by the Irishman, who said:

"Boys, we have all been bad together, we have made lots of money and spent it, and now, since we all have to join the church, there is no reason why we should be separated. I now propose we toss a ha'penny and shape our course on the result. If a harp comes up we will be Catholics, and if a queen shows on top we will be Protestants."

"Agreed," said the convicts.

And Pat. tossed the ha'penny, and the harp won. Accordingly they all became Catholics. Just before their departure the parish priest approached Pat. and asked him how he managed to convert his fellow-convicts.

"Oh, easy enough," replied Pat., and then he told the story of the ha'penny.

"Did you risk your immortal soul on the turning of a penny?" exclaimed the priest, in holy horror."

"Indeed I did not," replied Pat.; "that ha'penny had a harp on both sides. I made it myself."—*New Orleans Times-Democrat*.

A TRUTHFUL HOMILY.—"The system of treating practised so extensively in this country," remarked Dumley, "is senseless, and has brought untold misery and disgrace to thousands of happy homes. A man meets a party of friends at a bar, is invited to drink, and the result is everybody treats and everybody has drank more liquor and spent more money than he ought. It's an absurd custom and should be done away with."

"It should indeed. What'll you have, Dumley?"

"A little straight whiskey."

A little story brings to mind with renewed force the old proverb, "Truth is stranger than fiction." We were talking of what disposition to make of a kicking cow, when our hired man said: "I guess I can find a customer for her. There's an Irishman up in R— who bought a cow of one of our neighbors. He told the Irishman he must tell him one thing about the cow before he closed the bargain, that the cow would sometimes kick." The tender, "God-ordained protector" of our sex replied: "That makes no difference; my wife does the milking." I have often heard such things told, and have sometimes thought they must have been made up "to point a moral or adorn a tale." But this is a fact, for I questioned the man about it, and he said he knew it was true.—*Woman's Journal*.

A CALIFORNIA widow who put her all into a deal in stocks and was shrunk out, called upon her broker and said: "When will this thing probably come out in the papers?"

"To-morrow, doubtless."

"How long can you suppress it?"

"Why, I might keep it out two days, but not longer."

"Only two days! That's pretty short notice; but I'm a hustier when I get my bonnet on. I'll depend on the two days."

On the third day the papers chronicled her loss and her wedding on the same page.

"PA, does the sausage come out of his hole on Candlemas-day and look around for his shadow so as to make an early spring? Ma says it does."

"What are you talking about?" says the papa to the little boy. "It is the ground-hog that comes out of its hole, not the sausage."

"Well, ain't the sausage ground hog?"—*New York Telegram*.

POLICEMAN—"Have you a permit to play here?"

Organ-grinder—"No, but it amuses the little ones so much."

Policeman—"Then you will have the goodness to accompany me."

Organ-grinder—"Very well, sir; what do you wish to sing."

The politeness of New York waiters is illustrated by the following incident: Customer in Park Row (late Chatham street) coffee and cake saloon—"Aw, waitah, a napkin, please."

Waiter—"Yes, sah. Wid or widout fringe, sah?"

Two colored brothers fell out in the church about a small matter. The offending brother went to the offended one and said: "Bruder, the Lord has forgiven me, and won't you?"

The offended brother replied: "You go and bring de Lord's certificate that he has forgiven you, den I will see about the matter. John the Baptist required the Jews to bring a certificate of dere repentance 'fore he would baptize um."

AH HA! OH HO!—Mary Ann! Phat's that trill-le-la-loo nonsense yer jiggin' away at in thayre, I want to know? Put down that fut!"

"Don't bother me now; it's practising me calisthenics, I am."

"Calisthenics is it! Is that what what ye learn at the seminaries? Calisthenics, ah ha! Lapin' around on the wan fut wid yer toes turned in? Well, do yez calisthenic around here to the toob and warm the j'nts av yer elbows be roobin' the durt out ov these hickory shirts an overalls, or I'll tache yez a fancy

step wid de broom that'll make ye raise the two feet av yez higher than the spine o' yer back wid no more effort than the how'll ye'll set up for 'em to catch on. Calisthenics, ha! I'll have no more of this jig-jaggin' around like a hin on a s'ove lid. The foorst thing ye know it's joinin' the bally ye'll be, an' be spendin' all yer money for clothes an' wearin' none of 'em. Calisthenics, oh ho!"

PROFESSOR KICK ON THE CONSTRUCTION AND FITTING OF FLOUR MILLS.

Professor Kick closes his most recent work, "Neuerungen im Mühlenwesen," with the following remarks on the construction and fitting of modern flour mills, which may be translated thus:

"We have already remarked that the tendency of modern millwrighting is to so construct mills as to reduce human labor to a minimum. And, as a matter of fact, much can be done in this direction by means of cup elevators, grain and flour worms, and spouts. The screen-house, or wheat cleaning department, may be completely automatic, with the exception of the necessary watchman. But so far as regards the mill proper, here, as Millot rightly remarks in his description of a mill, there is much more to be done; for in high grinding, be the process but half carried out, the co-operation of hand labor for the grading of the products is necessary, and for this reason, that from the different wheats, middlings varying in quantity and quality are obtained by the different breaks, and that for the grading and further distribution of those products the co-operation of human and intelligent labor is, to a certain extent, indispensable, unless good and inferior materials are to be mingled together with the result of injuring the quality of the product. A complete automatic plant can only be recommended where the quality of the products is of less account than their quantity and cheapness. The same remark applies to those mills in which rolls are exclusively used for the process of reduction. Such mills will require more power for the grinding of fine middlings (dunst) than plants in which millstones or dismembrators are also brought into use, and the bran will be less thoroughly cleaned. Where country folk do not object to bran flour, and where power is cheap, the miller may, from a commercial point, get along well enough with a pure roller plant; but if these conditions are not altogether fulfilled, as will happen in the great majority of cases, then such plants are to be rejected, however much they may be admired and praised."

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GUARANTEEING RESULTS.

We take following suggestive paragraph from *The Millers' Gazette*, (London.)

The practice of guaranteeing results under any circumstances, which at one time was so popular amongst milling engineers, is to be deplored and discountenanced, except within certain limits. No milling engineer, for instance, should guarantee a certain quality of flour except he designate the quality of wheat, and unless he has full control of the mill himself; a miller, too, who orders a new plant should not insist upon its being erected against time; in most cases he would suffer in one way or another; a little more liberty granted to the engineer, and a little less stint of machinery, would insure the miller a much more satisfactory plant than if he tied the engineer down to certain hard and fast lines and conditions. The practice of blindly guaranteeing anything and everything appears to be popular in France and Belgium, and a case recently decided at Brussels shows what disastrous results occasionally follow. A certain milling engineer agreed to build a mill at a given price, to produce a certain number of sacks per hour, of a specified quality; when the mill was finished, disputes arose, and a fresh agreement was entered into by which the engineer was to furnish more machinery to obtain better results. More disputes arose, and two experts are called in to arbitrate, the result being that the matter is brought before the Brussels Tribunal, the engineer being the plaintiff, and the millers (in this case a company,) the defendants. The award of the arbitrators was that the plaintiff should reimburse to the defendants the sum of 199,740fr. (£7,990) with interest at 8 per cent. from the time that the payment was made. The engineer, too, is condemned to take all his machinery back within two months, and pay the cost of transport, as well as the cost of arbitration. In another case before a Belgian Tribunal recently, the milling engineer guaranteed 70 per cent. of flour, equal to the Paris Nine Marks flour, but the agreement failed to mention whether this was on the cleaned or unclean wheat, therefore the Court has to decide the question.

THE following two items we take from *Bradstreet's*:

WAGERING CONTRACTS—VALIDITY—LEX LOCI.—In a recent case decided by the Maryland Court of Appeals, it appeared that a principal and brokers employed by him to make purchases of stocks, bonds and grains, resided in Pennsylvania, where deliveries and settlements were to be made. Many of the negotiations made by the brokers, however, were conducted in the markets of New York, Baltimore and Chicago as well as in Philadelphia. The question arose in the case under which law the validity or the invalidity of the contracts between the parties (as being wagering contracts or not) was to be determined. The Maryland Court held (*Stewart vs. Schall et al.*) that the contracts between the parties was to be governed by the law of Pennsylvania.

PURCHASE OF MACHINE—BREACH OF WARRANTY. Where a purchaser of a machine used it for eight months and then gave his notes for the full price, the Maryland Court of Appeals held (*Adler vs. The Robert Porter Brewing Company*) that he could not

afterwards in good faith set up the defense of a breach of warranty to an action for the price. The court took the view that the purchaser had ample opportunity to ascertain whether or not there had been a breach of warranty.

RECENT MILLING PATENTS.

The following list of Patents relating to milling interests, granted by the U. S. Patent Office during the past month, is specially reported by Stout & Underwood, Solicitors of Patents, 66 Wisconsin st., Milwaukee, Wis., who will send a copy of any patent named to any address for 50 cents:

Issue of August 4, 1886: No. 346,511—Grinding mill, L. B. & C. H. Sprout, Munoy, Pa.; No. 346,738—Grain huller, A. Dewey & J. Short, Camerton, Ind.; No. 346,815—Cockle separator, F. W. Howell, Buffalo, N.Y.; No. 346,821—Elevator spout, W. L. Mock, Woodlawn, Kan.; No. 346,854—Grinding mill, B. S. Lawson, Brooklyn, N. Y.

Issue of August 10, 1886: No. 346,838—Oat hulling machine, W. Mathias & C. H. Rudolph, Colfax, Dak.; No. 346,984—Oatmeal machine, W. Mathias & C. H. Rudolph, Colfax, Dak.; No. 347,222—Grinding mill, W. T. Dougan, Salem, Mo.; No. 347,245—Dust collector, N. W. Holt, Jackson, Mich.

Issue of August 17, 1886: No. 347,320—Process of bolting and purifying flour, J. V. Davis, Huntington, W. Va.; No. 347,391—Grain separator, J. T. & A. E. Smith, Scotland, Dak.; No. 347,581—Grinding mill, D. C. Stover, Freeport, Ill.; No. 347,540—Machine for pearling barley, wheat, etc., C. O. Webb, Moravia, N. Y.; No. 347,667—Roller mill, J. Walker, Cleveland, Ohio; No. 347,708—Fanning mill, G. & J. W. Gray, Sauk Centre, Minn.

Issue of Aug. 24, 1886: No. 347,790—Machine for making sheets of ground cereals, J. F. Gent, Columbus, Ind.; No. 347,848—Eccentric for operating screens of middlings purifiers, J. T. Walter, Easton, Pa.; No. 348,066—Automatic grain scale, A. F. Sparks, Dayton, Ohio; No. 347,986—Grinding mill, G. F. Simpson, Brooklyn, N. Y.; No. 348,151—Magnetic separator, G. A. Gilbert, Milwaukee, Wis.; No. 348,158—Grinding mill, J. F. Custard, Slatington, Pa.

Issue of August 31, 1886: No. 348,199—Flour bolt, J. J. & E. T. Faulkner, McMinnville, Tenn.; No. 348,205—Feed mechanism for grinding mills, H. Haire, Grand Rapids, Mich.; No. 348,384—Grinding mill, H. Cutler, Wilbraham, Mass.; No. 348,515—Grain separator, G. A. Dawson, Cardington, Ohio.

PUBLICATIONS RECEIVED.

Now that so many persons are returning from the country to the city, the excellent series of practical articles begun in the September number of *The Art Amateur*, "Hints on the Decoration of Unadorned City Apartments," ought to be very valuable. The colored plate in this issue is a charming landscape by Leonard Ochtman; the number is particularly rich in figure sketches by Boucher, De Beaumont and Edith Scannell, and there is the usual liberal array of choice original designs for china decorations, embroidery and brass hammering. An interesting "Note Book," some capital hints for collectors of brie-a-brac, and a suggestive article on color, supplement most agreeably the severely practical text relating to flower painting in oils, sketching from nature, water color painting, embroidery and other art topics. Price, 25 cents. Montague Marks, Publisher, 23 Union Square, New York.

We have received from Thos. Gray, a prominent dealer in scientific and miscellaneous books at No. 104 Wisconsin street, Milwaukee, a copy of "The History of the Present Tariff," by F. W. Taussig, Ph. D., of Harvard University. This work treats the subject exhaustively, especially during the period from 1860 to 1882. All interested in this important question of the day (and what American citizen is not) should send for a copy.

Mr. Gray has also favored us with a valuable work entitled, "Railroad Transportation," by Arthur T. Hadley, Commissioner of Labor Statistics and Professor of Political Science in Yale College. This is a very carefully prepared work, full of annotations, references and statistics to support the text. The question of Railway transportation is discussed from a fair standpoint, and the essay is pregnant with ideas new to most readers.

USEFUL RECIPES.

WOOD PRESERVATIVE.—Introduce into the pores of the wood the following solution: Mix two parts of gutta-percha, with one part of paraffine, heat to liquefy the mixture and apply while hot.

A FINE LUBRICANT.—A good lubricant for fine machinery and one which will not gum or corrode, may be obtained by putting pure olive oil into a clear glass bottle with strips of sheet lead; expose to the sun for two or three weeks and then pour off the clear oil for use.

TO POLISH GLASS.—To polish plate glass and remove slight scratches, rub the surface gently, first with a clean pad of fine cotton wool, and afterward with a similar pad covered over with cotton velvet which has been charged with fine rouge. The surface will acquire a polish of great brilliancy, quite free from any scratches.

TO REMOVE OLD PAINT FROM GLASS.—Ten cents' worth of oxalic acid dissolved in a pint hot water, will remove paint spots from the windows. Pour a little into a cup and apply to the spots with a swab, but be sure not to allow the acid to touch the hands. Brasses may be quickly cleaned with it. Great care must be exercised in labeling the bottle and putting it out of the reach of children, as it is a deadly poison.

SEVEN COLORS FOR STAINING MARBLE.—It is necessary to heat the marble hot, but not so as to injure it, the proper heat being that at which the colors nearly boil. Blue—alkaline indigo dye, or turnsole with alkali. Red—dragon's blood in spirits of wine. Yellow—gamboge in spirits of wine. Gold color—sal ammoniac, sulphate of zinc and verdigris, equal parts. Green—sap green in spirits with potash. Brown—tincture of logwood. Crimson—alkanet root in turpentine. Marble may be veined according to taste. To stain marble well is a difficult operation.

TO RESTORE DISCOLORED IVORY.—Wash well in soap and water, cleaning out any carving with a small brush, and place while wet in full sunshine. Wet for two or three days several times a day, with soapy water, still keeping the article in the sun with a glass shade over; then wash again and the article will be beautifully white.

ACID PROOF CEMENT.—A cement for resisting sulphuric acid even at a boiling heat may be made by melting caoutchouc at a gentle heat, and adding with constant stirring, from six to eight per cent. of tallow. Then mix therewith enough dry slack lime to make the whole the consistency of soft paste, finally add thereto about twenty per cent. of red lead whereby the mass immediately sets hard and dry. A solution of caoutchouc in twice its weight in linseed oil, aided by heating and the addition of an equal weight of pipe clay, yields a plastic mass which will likewise resist most acids.

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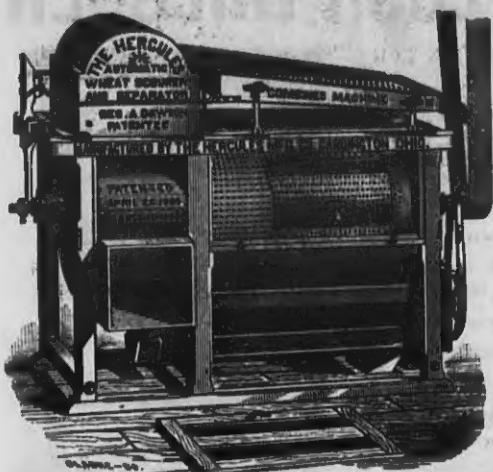
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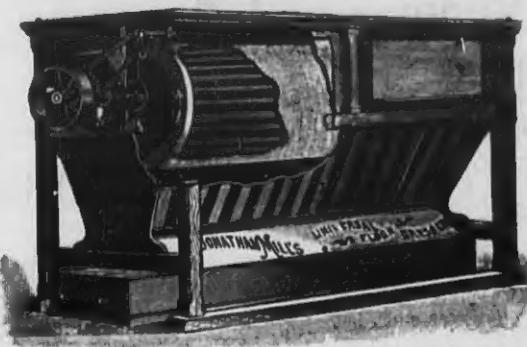
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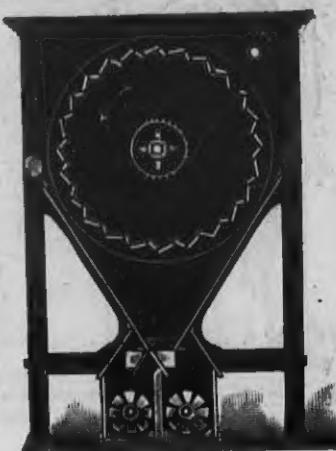
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